FIG. 1

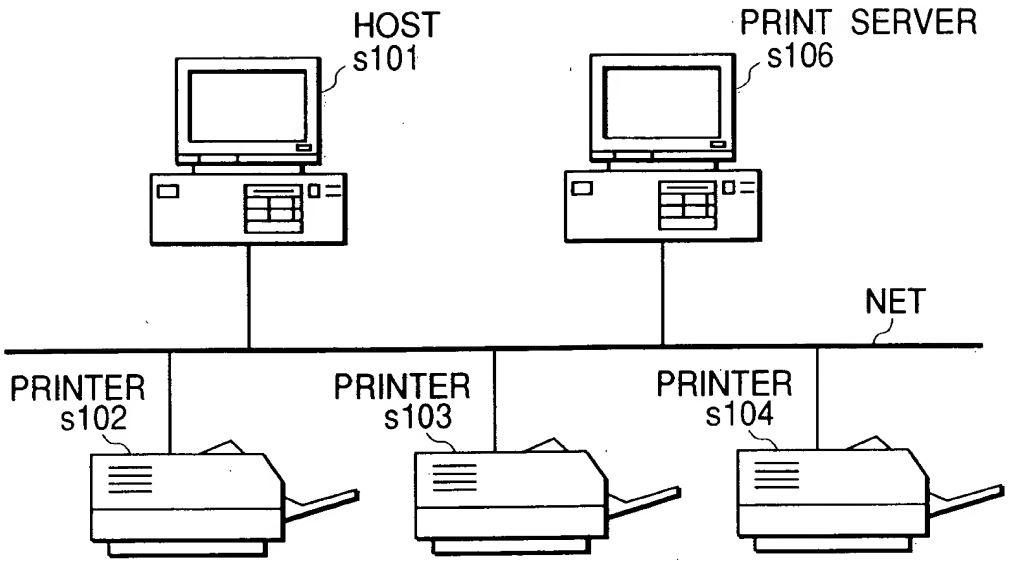
HOST
s101
PRINT SERVER
s106
NET
PRINTER
s102
PRINTER
s103
PRINTER
s104

FIG. 2

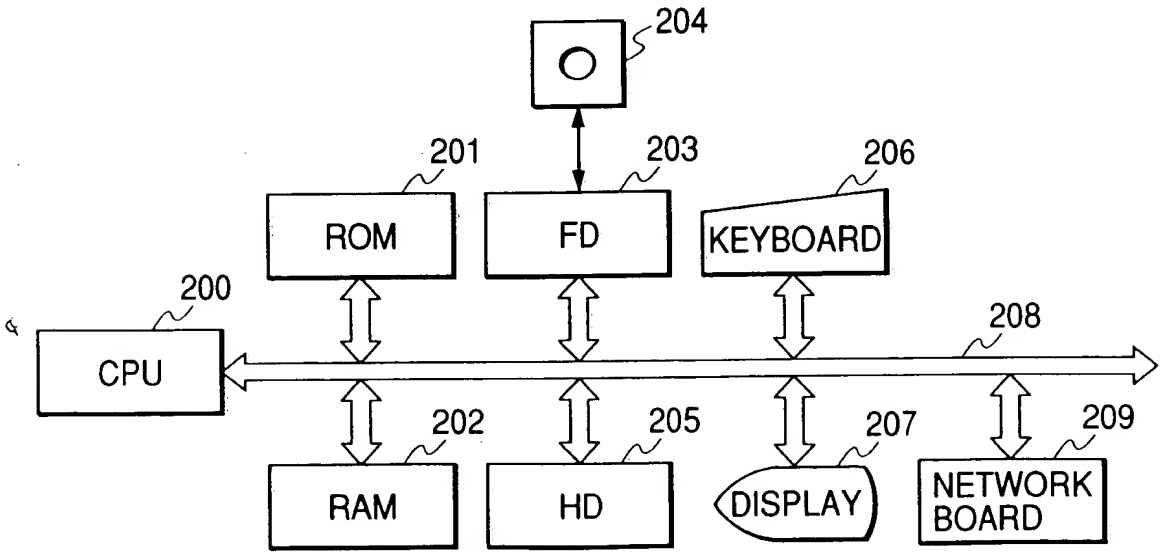
204
201
203
206
ROM
FD
KEYBOARD
200
208
CPU
202
205
207
209
RAM
HD
DISPLAY
NETWORK
BOARD

FIG. 3

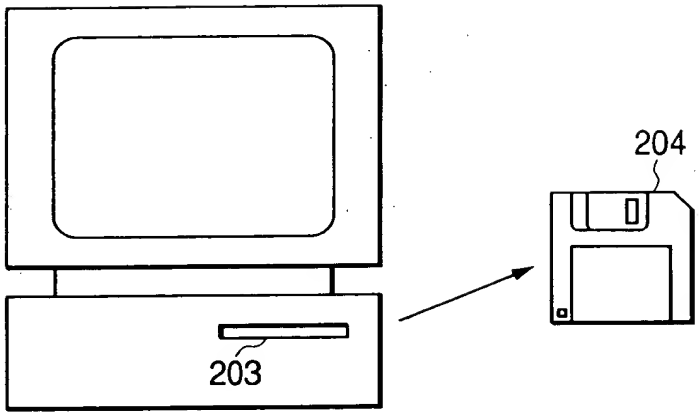

FIG. 4

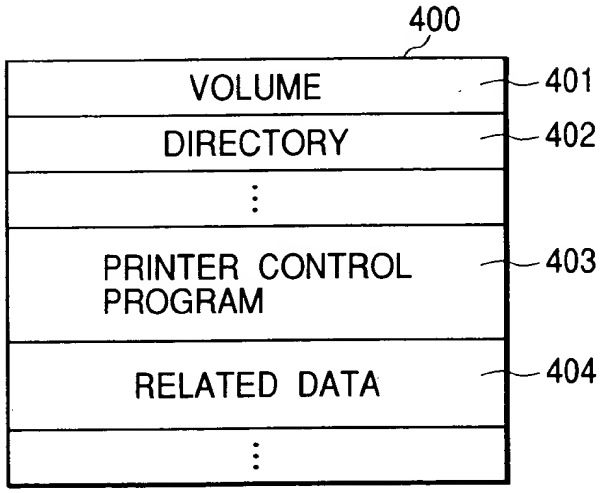

FIG. 5

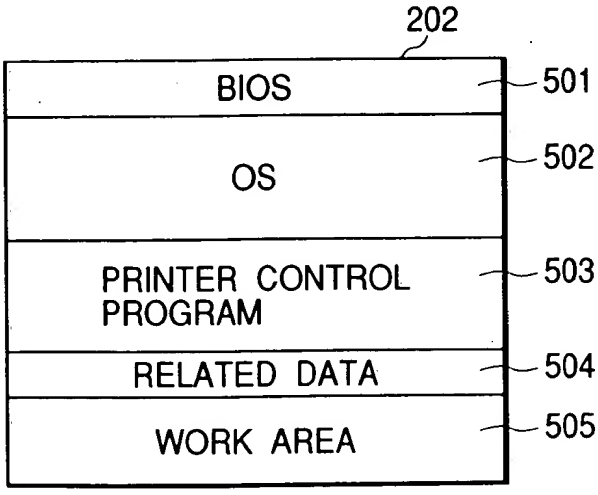

FIG. 6

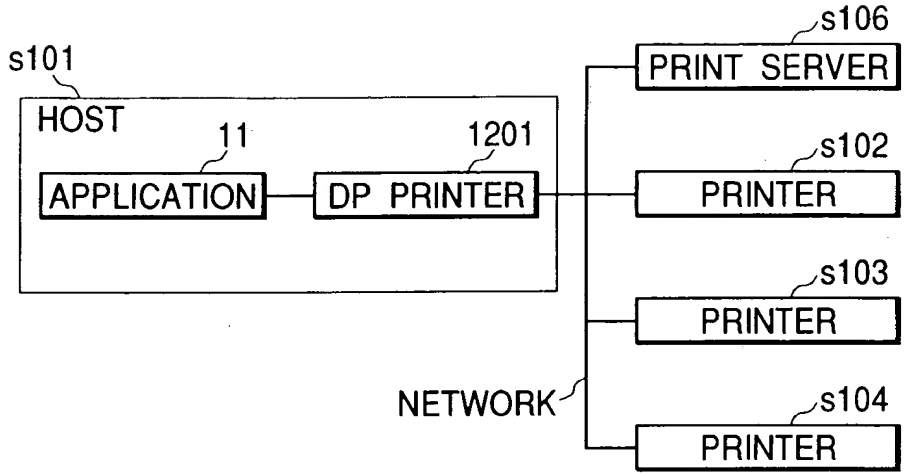
s101
HOST
11
APPLICATION
1201
DP PRINTER
NETWORK
s106
PRINT SERVER
s102
PRINTER
s103
PRINTER
s104
PRINTER

FIG. 8

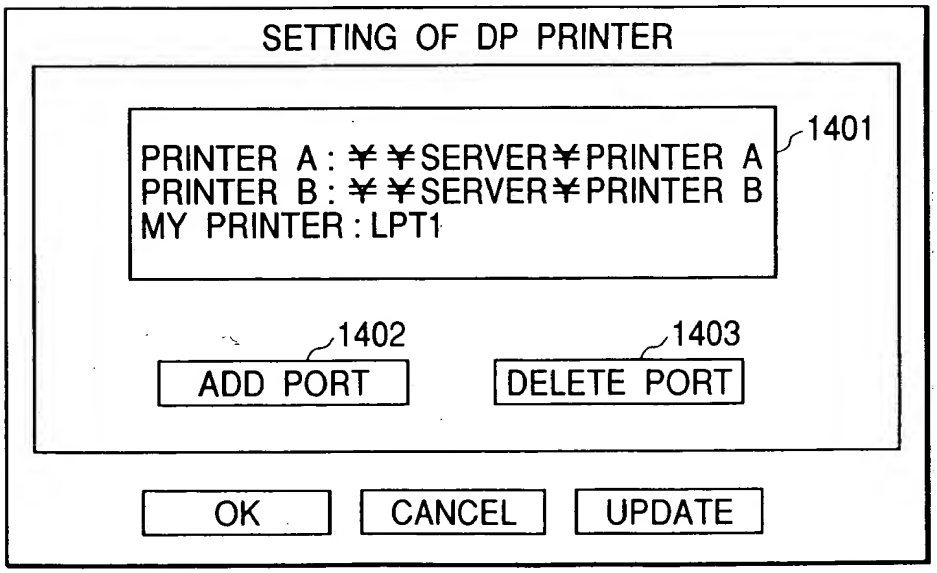
SETTING OF DP PRINTER
PRINTER A : ¥¥SERVER¥PRINTER A
PRINTER B : ¥¥SERVER¥PRINTER B
MY PRINTER : LPT1
1401
1402
ADD PORT
1403
DELETE PORT
OK
CANCEL
UPDATE

FIG. 7

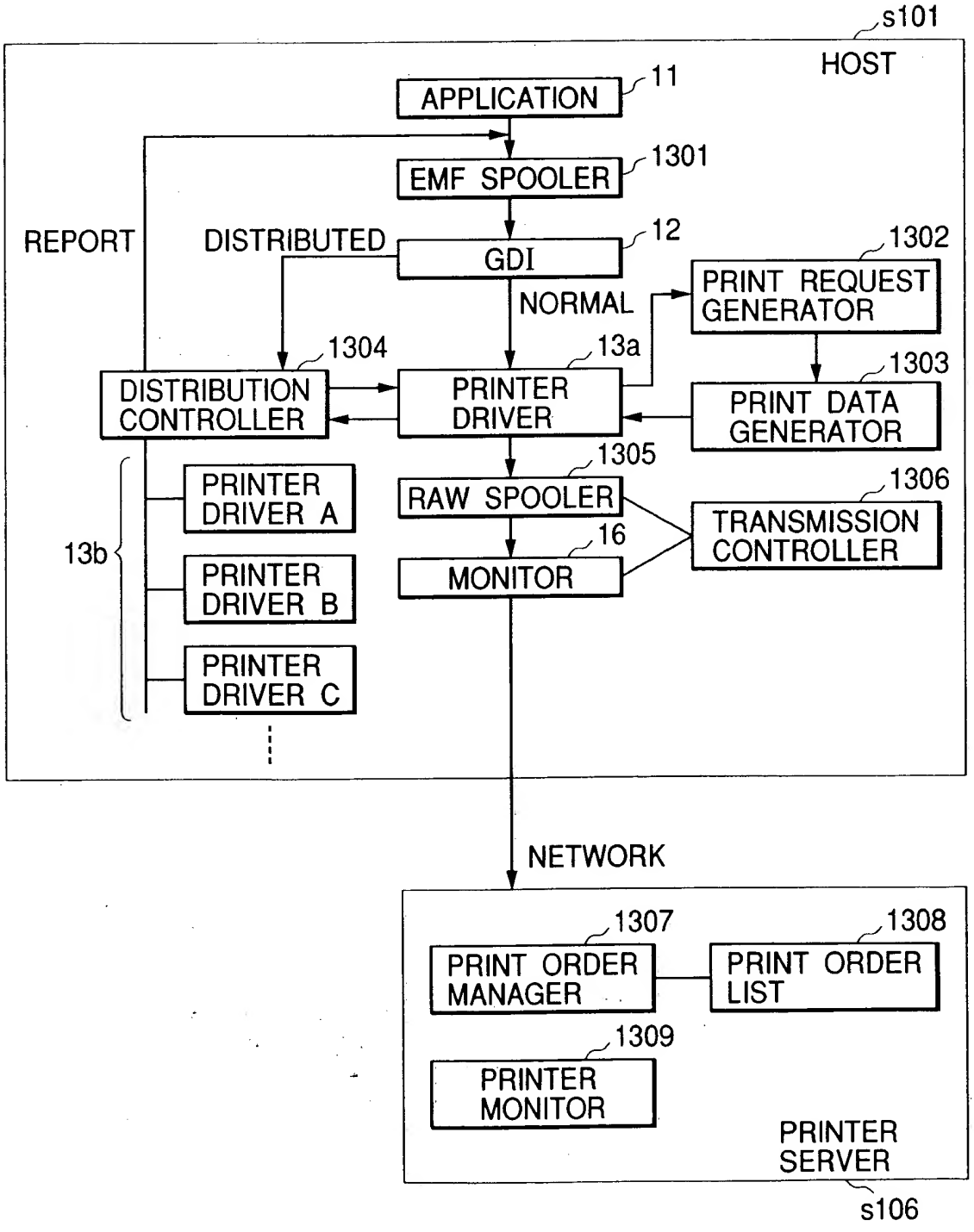
s101
HOST
APPLICATION
11
EMF SPOOLER
1301
REPORT
DISTRIBUTED
GDI
12
1302
PRINT REQUEST GENERATOR
NORMAL
1304
13a
1303
DISTRIBUTION CONTROLLER
PRINTER DRIVER
PRINT DATA GENERATOR
1305
1306
PRINTER DRIVER A
RAW SPOOLER
TRANSMISSION CONTROLLER
13b
16
PRINTER DRIVER B
MONITOR
PRINTER DRIVER C
NETWORK
1307
1308
PRINT ORDER MANAGER
PRINT ORDER LIST
1309
PRINTER MONITOR
PRINTER SERVER
s106

FIG. 9

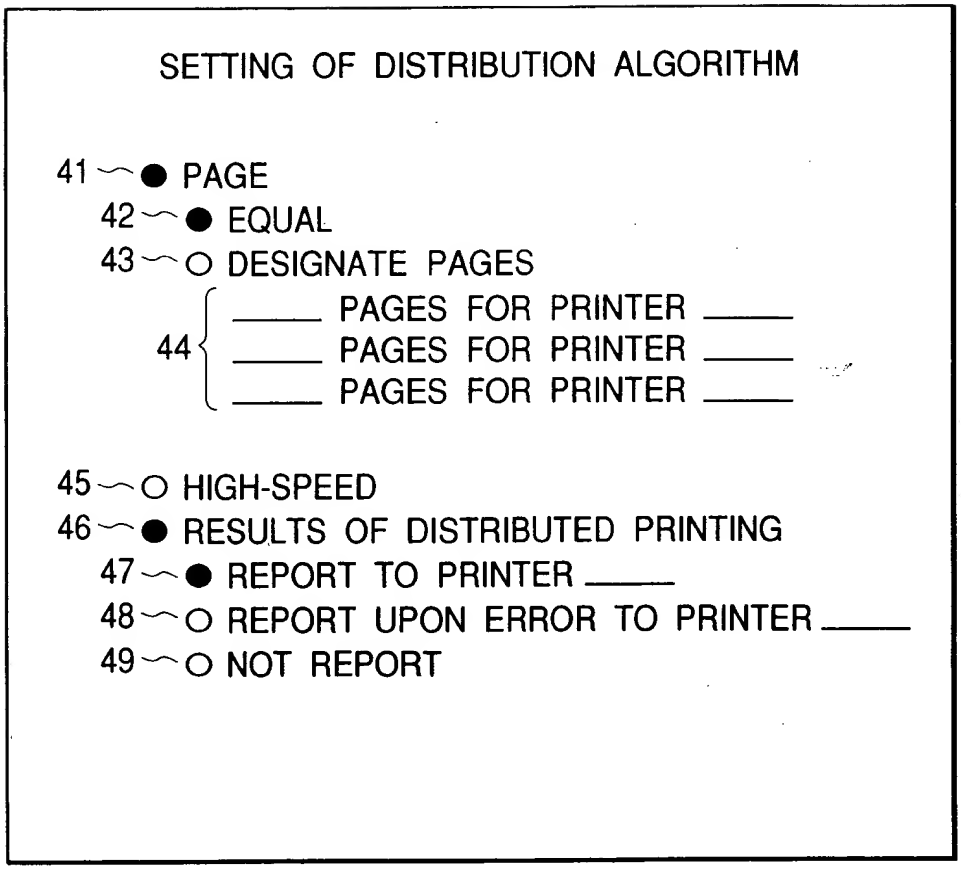
SETTING OF DISTRIBUTION ALGORITHM
41 ● PAGE
42 ● EQUAL
43 ○ DESIGNATE PAGES
44 _____ PAGES FOR PRINTER _____
_____ PAGES FOR PRINTER _____
_____ PAGES FOR PRINTER _____
45 ○ HIGH-SPEED
46 ● RESULTS OF DISTRIBUTED PRINTING
47 ● REPORT TO PRINTER _____
48 ○ REPORT UPON ERROR TO PRINTER _____
49 ○ NOT REPORT

FIG. 10

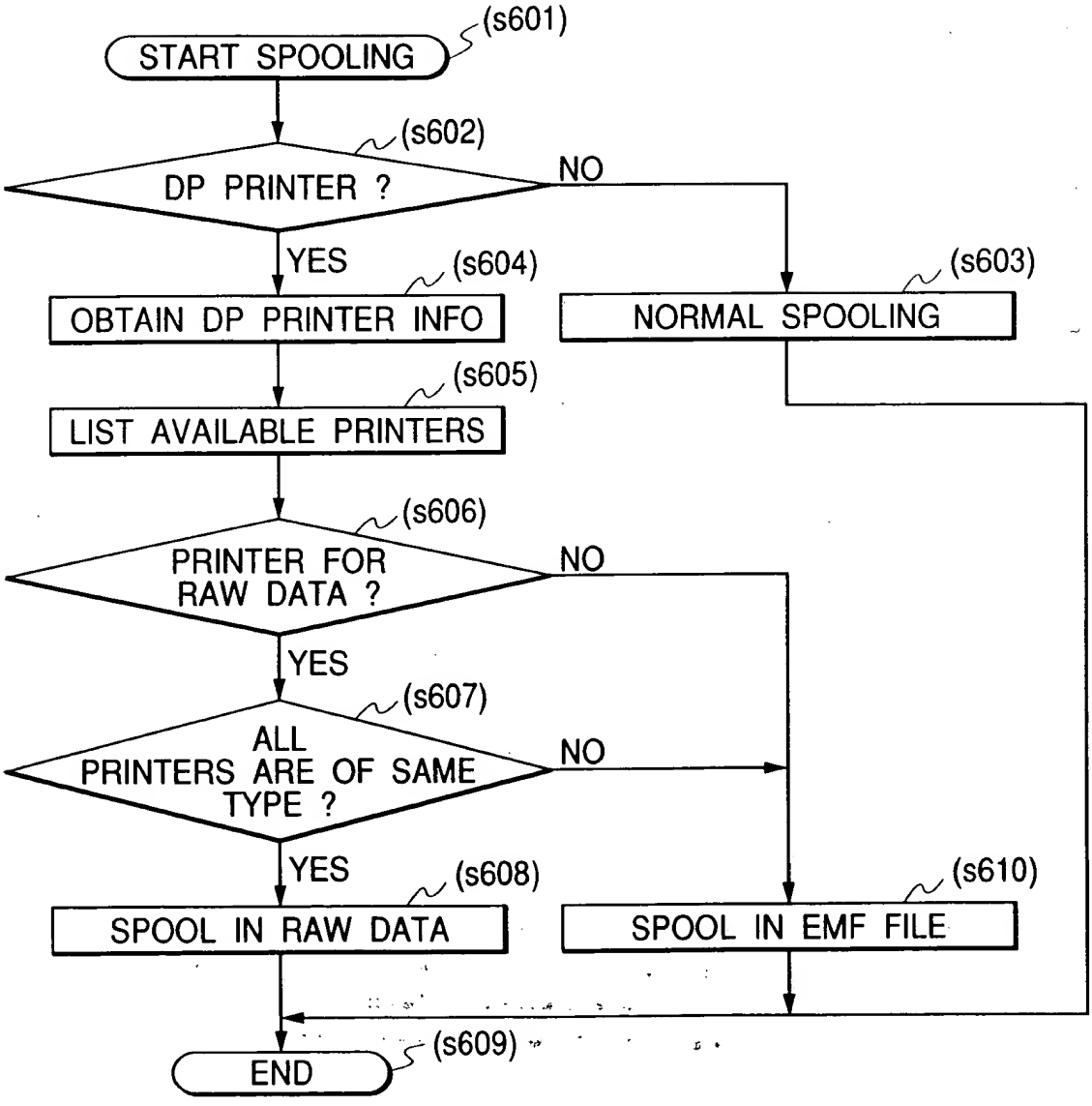
START SPOOLING
(s601)
DP PRINTER ?
(s602)
NO
YES
OBTAIN DP PRINTER INFO
(s604)
NORMAL SPOOLING
(s603)
LIST AVAILABLE PRINTERS
(s605)
PRINTER FOR RAW DATA ?
(s606)
NO
YES
ALL PRINTERS ARE OF SAME TYPE ?
(s607)
NO
YES
SPOOL IN RAW DATA
(s608)
SPOOL IN EMF FILE
(s610)
END
(s609)

FIG. 11

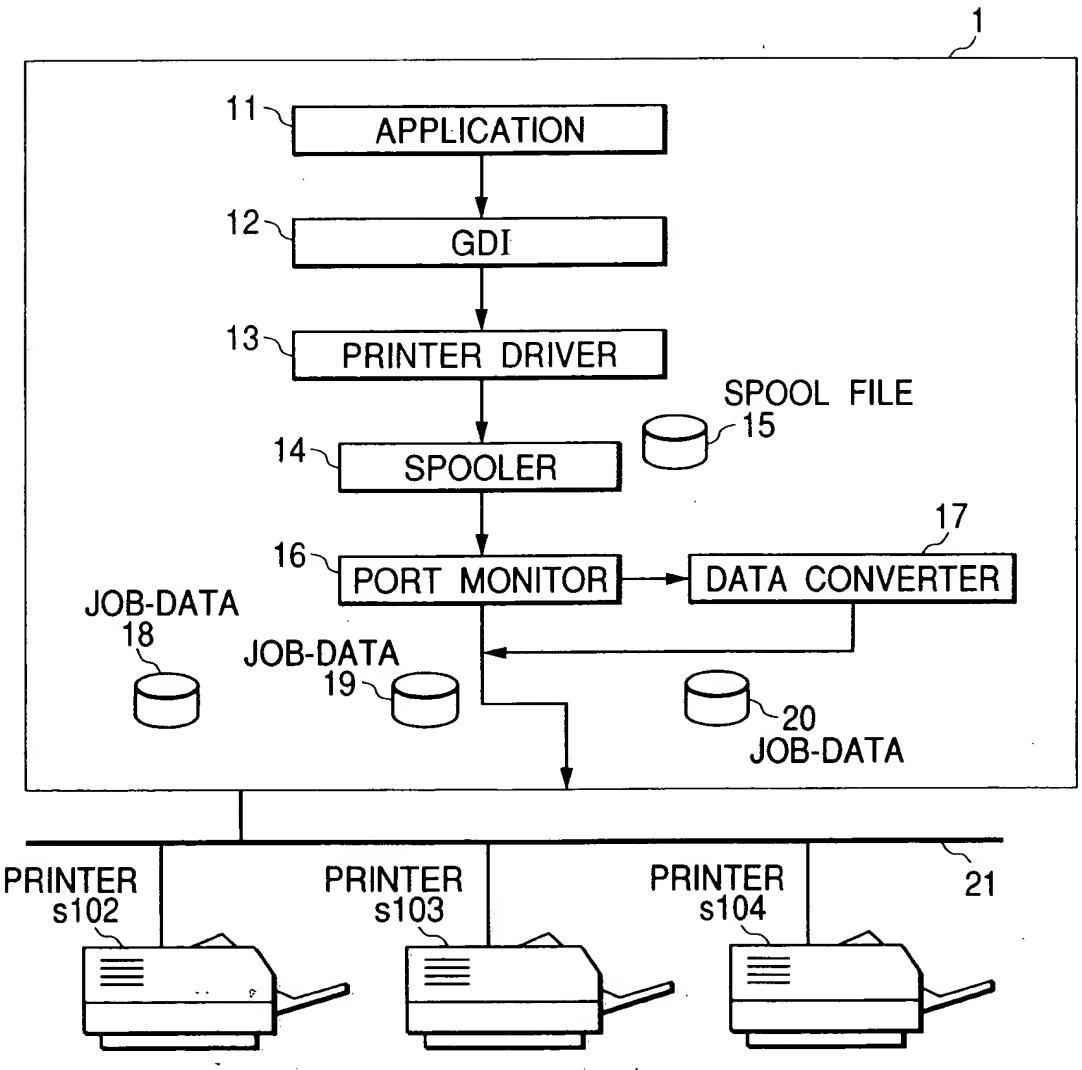
1
11
APPLICATION
12
GDI
13
PRINTER DRIVER
SPOOL FILE
15
14
SPOOLER
17
16
PORT MONITOR
DATA CONVERTER
JOB-DATA
18
JOB-DATA
19
20
JOB-DATA
21
PRINTER
s102
PRINTER
s103
PRINTER
s104

FIG. 12

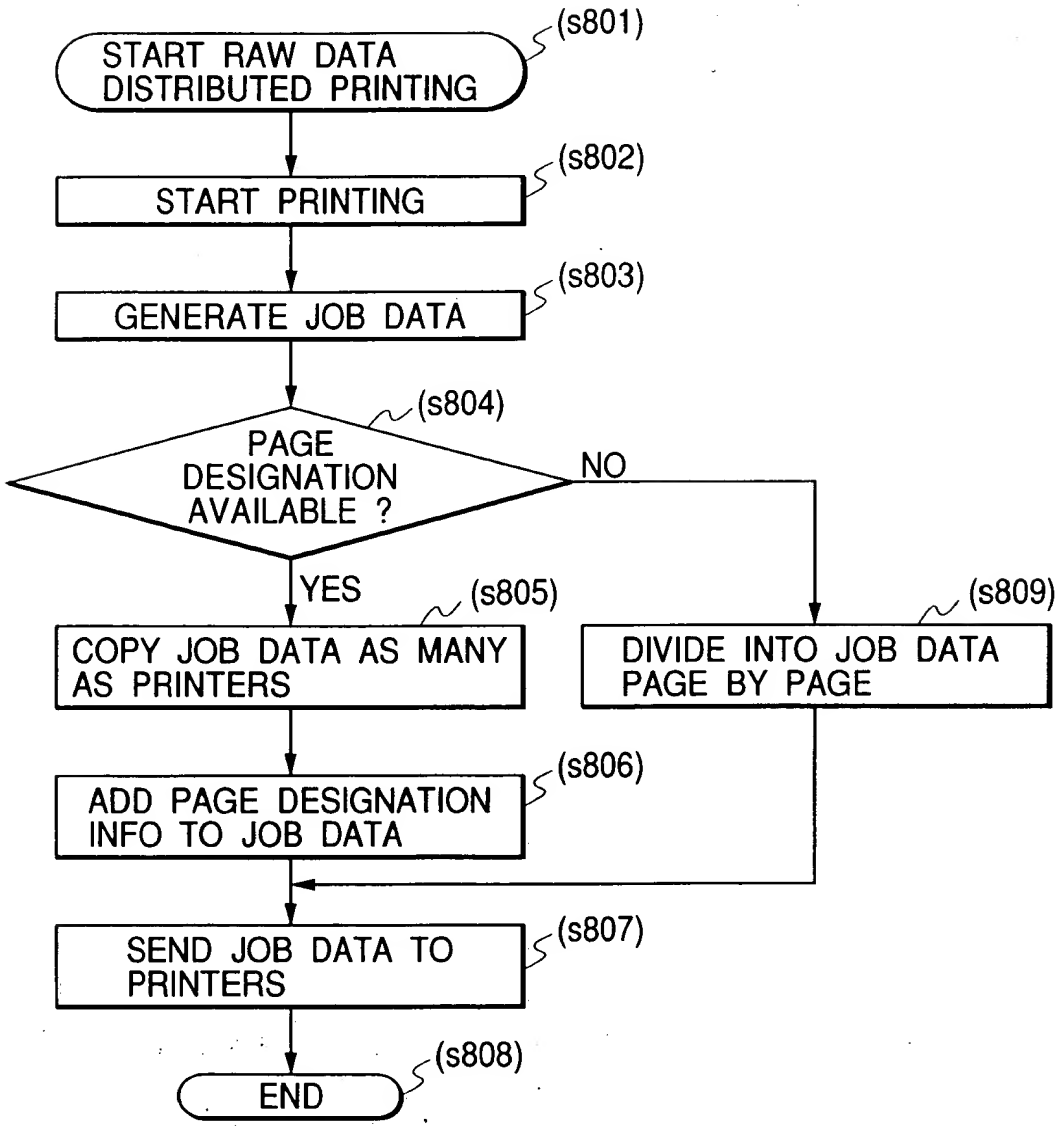
START RAW DATA DISTRIBUTED PRINTING
(s801)
START PRINTING
(s802)
GENERATE JOB DATA
(s803)
PAGE DESIGNATION AVAILABLE ?
(s804)
NO
YES
COPY JOB DATA AS MANY AS PRINTERS
(s805)
DIVIDE INTO JOB DATA PAGE BY PAGE
(s809)
ADD PAGE DESIGNATION INFO TO JOB DATA
(s806)
SEND JOB DATA TO PRINTERS
(s807)
END
(s808)

FIG. 13

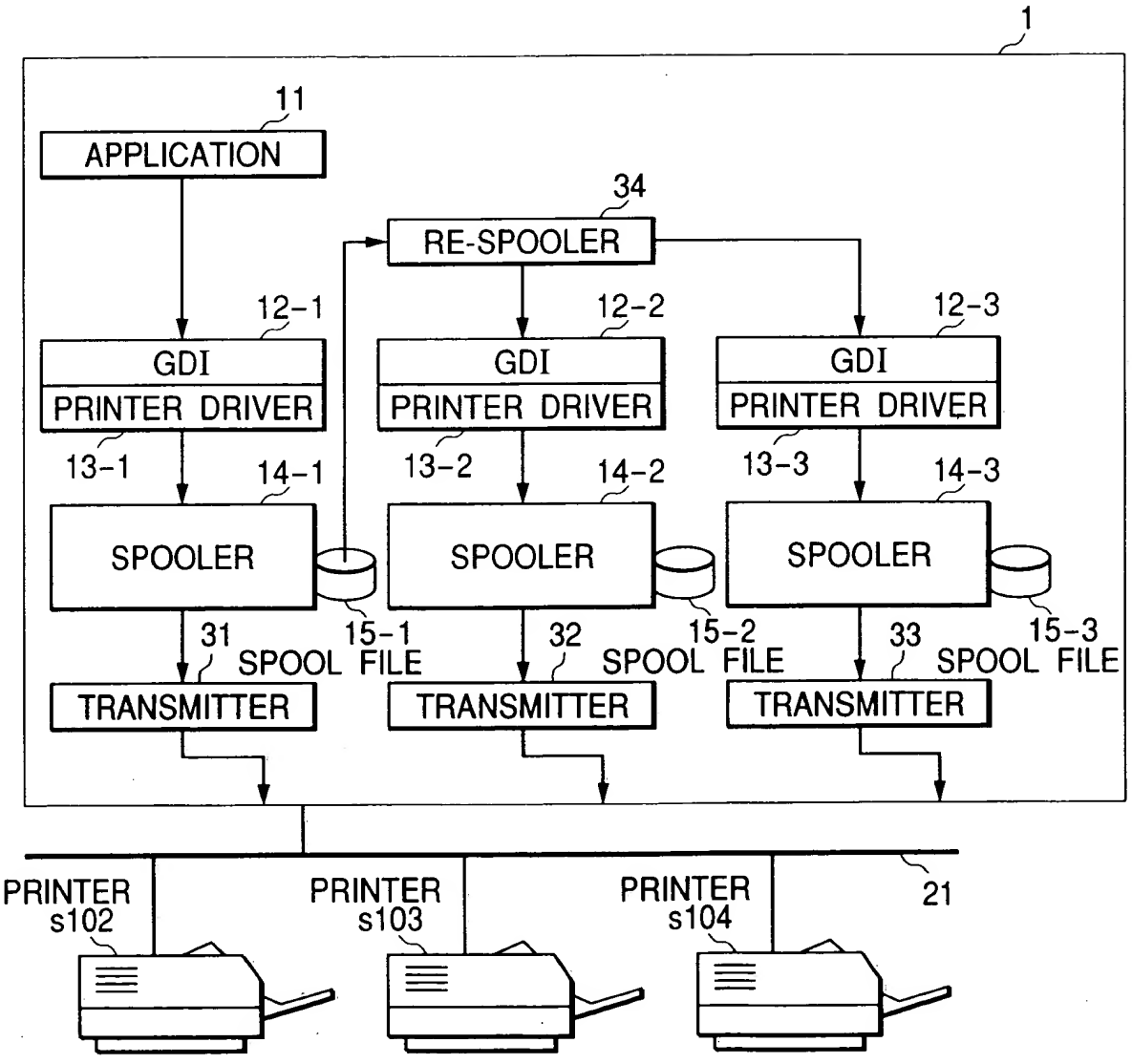
1
11
APPLICATION
34
RE-SPOOLER
12-1
GDI
PRINTER DRIVER
12-2
GDI
PRINTER DRIVER
12-3
GDI
PRINTER DRIVER
13-1
14-1
SPOOLER
13-2
14-2
SPOOLER
13-3
14-3
SPOOLER
31
SPOOL FILE
15-1
32
SPOOL FILE
15-2
33
SPOOL FILE
15-3
TRANSMITTER
TRANSMITTER
TRANSMITTER
21
PRINTER
s102
PRINTER
s103
PRINTER
s104

FIG. 14

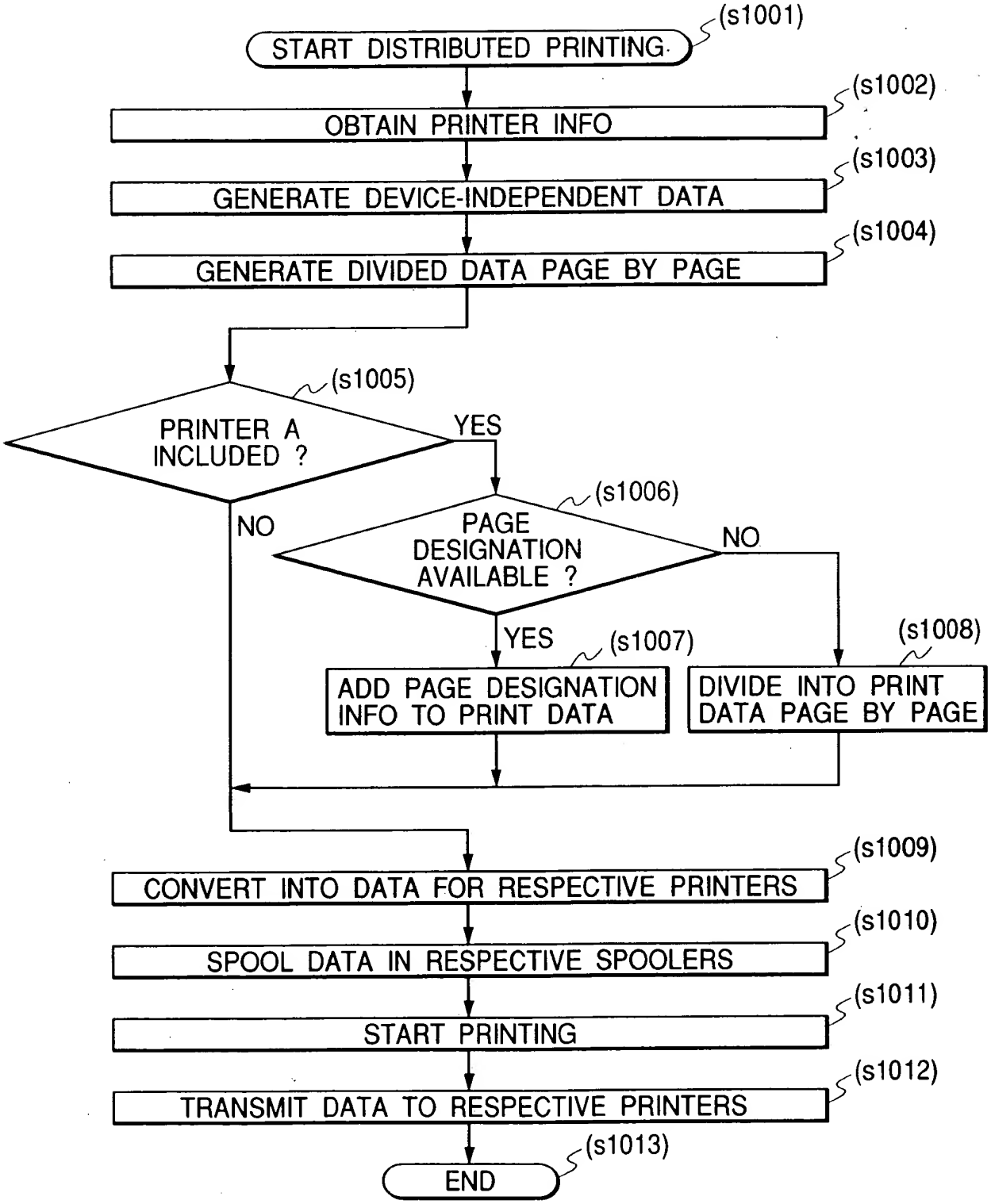
START DISTRIBUTED PRINTING
(s1001)
OBTAIN PRINTER INFO
(s1002)
GENERATE DEVICE-INDEPENDENT DATA
(s1003)
GENERATE DIVIDED DATA PAGE BY PAGE
(s1004)
PRINTER A INCLUDED ?
(s1005)
YES
NO
PAGE DESIGNATION AVAILABLE ?
(s1006)
YES
NO
ADD PAGE DESIGNATION INFO TO PRINT DATA
(s1007)
DIVIDE INTO PRINT DATA PAGE BY PAGE
(s1008)
CONVERT INTO DATA FOR RESPECTIVE PRINTERS
(s1009)
SPOOL DATA IN RESPECTIVE SPOOLERS
(s1010)
START PRINTING
(s1011)
TRANSMIT DATA TO RESPECTIVE PRINTERS
(s1012)
END
(s1013)

FIG. 15

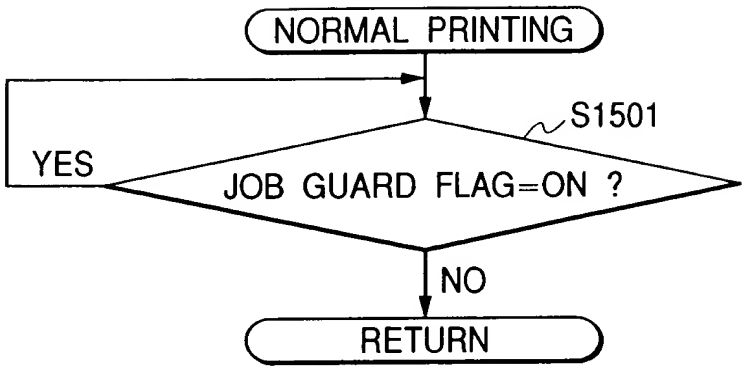

FIG. 16

REPORT ON DISTRIBUTED PRINTING RESULTS

	JOB	TIME	PAGE	PRINTER	RESULTS
1601	NC001.doc	30SEC	10	PRINTER A	3 PAGES
1602	NC001.doc		10	PRINTER B	NO PAPER
1603	NC001.doc		10	PRINTER C	7 PAGES

FIG. 17

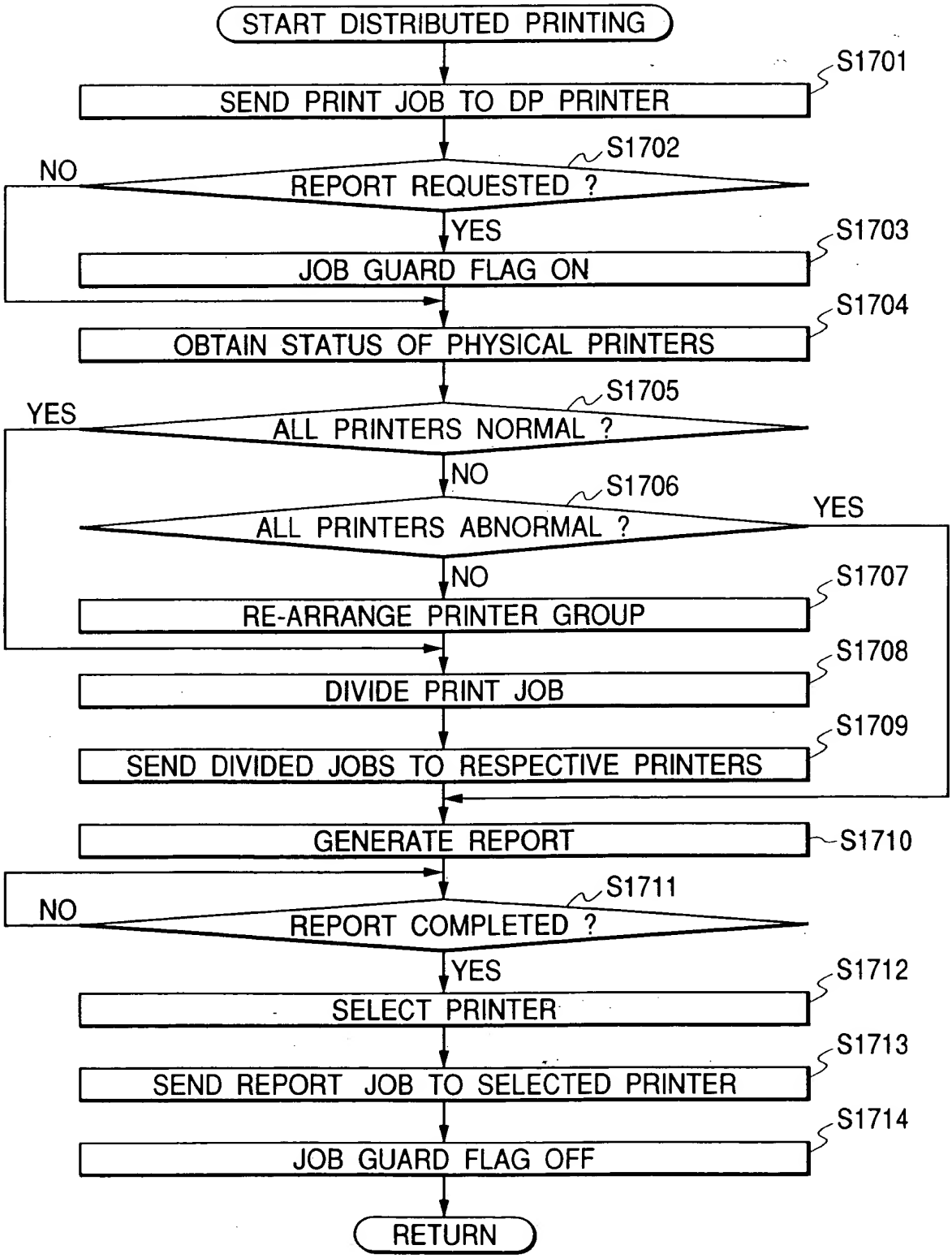
START DISTRIBUTED PRINTING
S1701
SEND PRINT JOB TO DP PRINTER
S1702
NO
REPORT REQUESTED ?
YES
S1703
JOB GUARD FLAG ON
S1704
OBTAIN STATUS OF PHYSICAL PRINTERS
S1705
YES
ALL PRINTERS NORMAL ?
NO
S1706
ALL PRINTERS ABNORMAL ?
YES
NO
S1707
RE-ARRANGE PRINTER GROUP
S1708
DIVIDE PRINT JOB
S1709
SEND DIVIDED JOBS TO RESPECTIVE PRINTERS
GENERATE REPORT
S1710
S1711
NO
REPORT COMPLETED ?
YES
S1712
SELECT PRINTER
S1713
SEND REPORT JOB TO SELECTED PRINTER
S1714
JOB GUARD FLAG OFF
RETURN

FIG. 18A

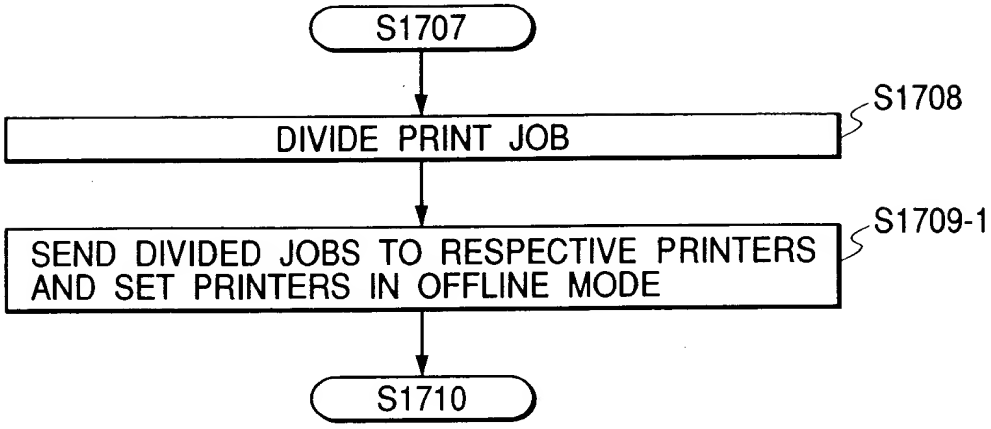

FIG. 18B

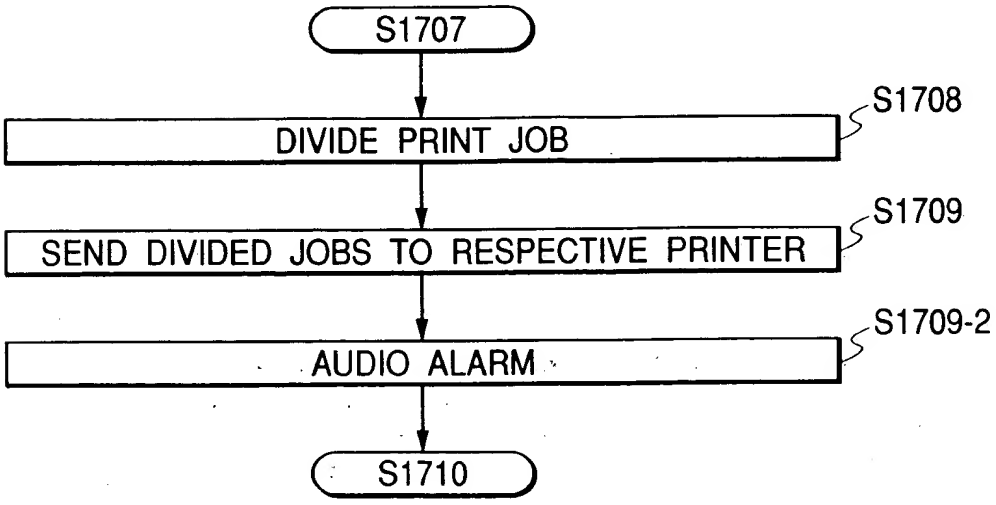

FIG. 19A

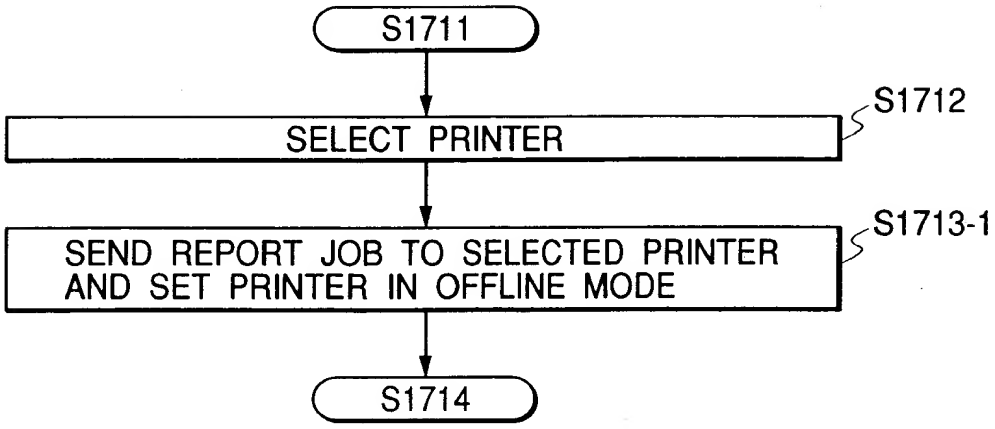

FIG. 19B

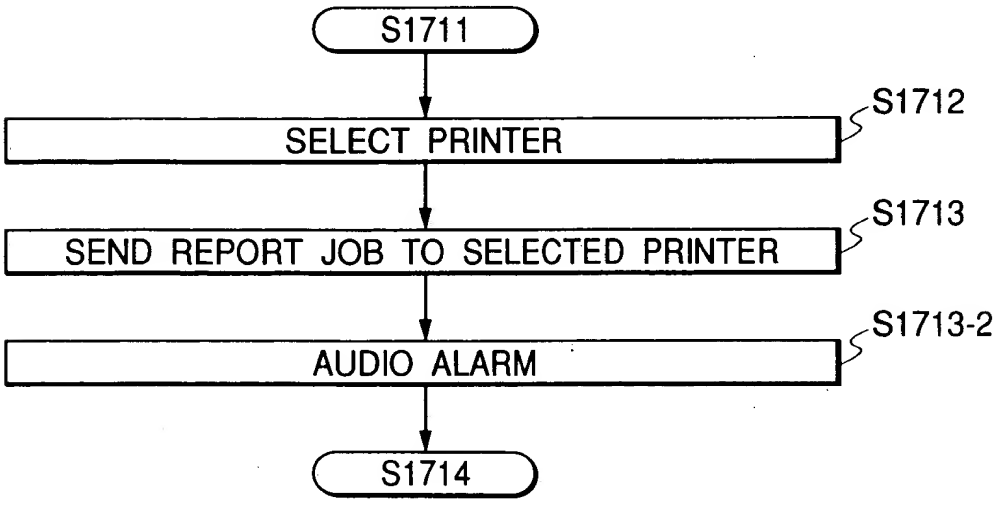

FIG. 20

STEP OF EXECUTING DISTRIBUTED PRINTING
STEP OF OUTPUTTING REPORT ON DISTRIBUTED PRINTING RESULTS
STEP OF OUTPUTTING REPORT UPON ERROR
SETTING PRINTER TO WHICH REPORT IS OUTPUT
STEP OF SUSPENDING NEXT JOB DURING REPORT OUTPUT PROCESS
STEP OF SETTING PRINTERS IN OFFLINE MODE AFTER DISTRIBUTED PRINTING
STEP OF SETTING PRINTER IN OFFLINE MODE AFTER REPORT OUTPUT PROCESS
STEP OF CAUSING PRINTERS TO PRODUCE AUDIO ALARM AFTER DISTRIBUTED PRINTING
STEP OF CAUSING PRINTER TO PRODUCE AUDIO ALARM AFTER REPORT OUTPUT PROCESS

FIG. 21

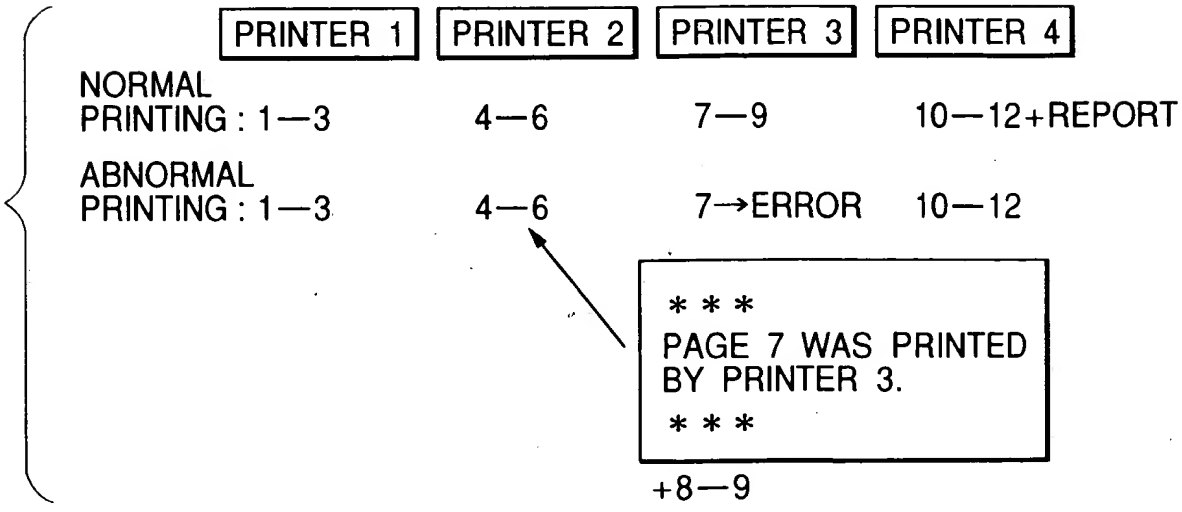

FIG. 22

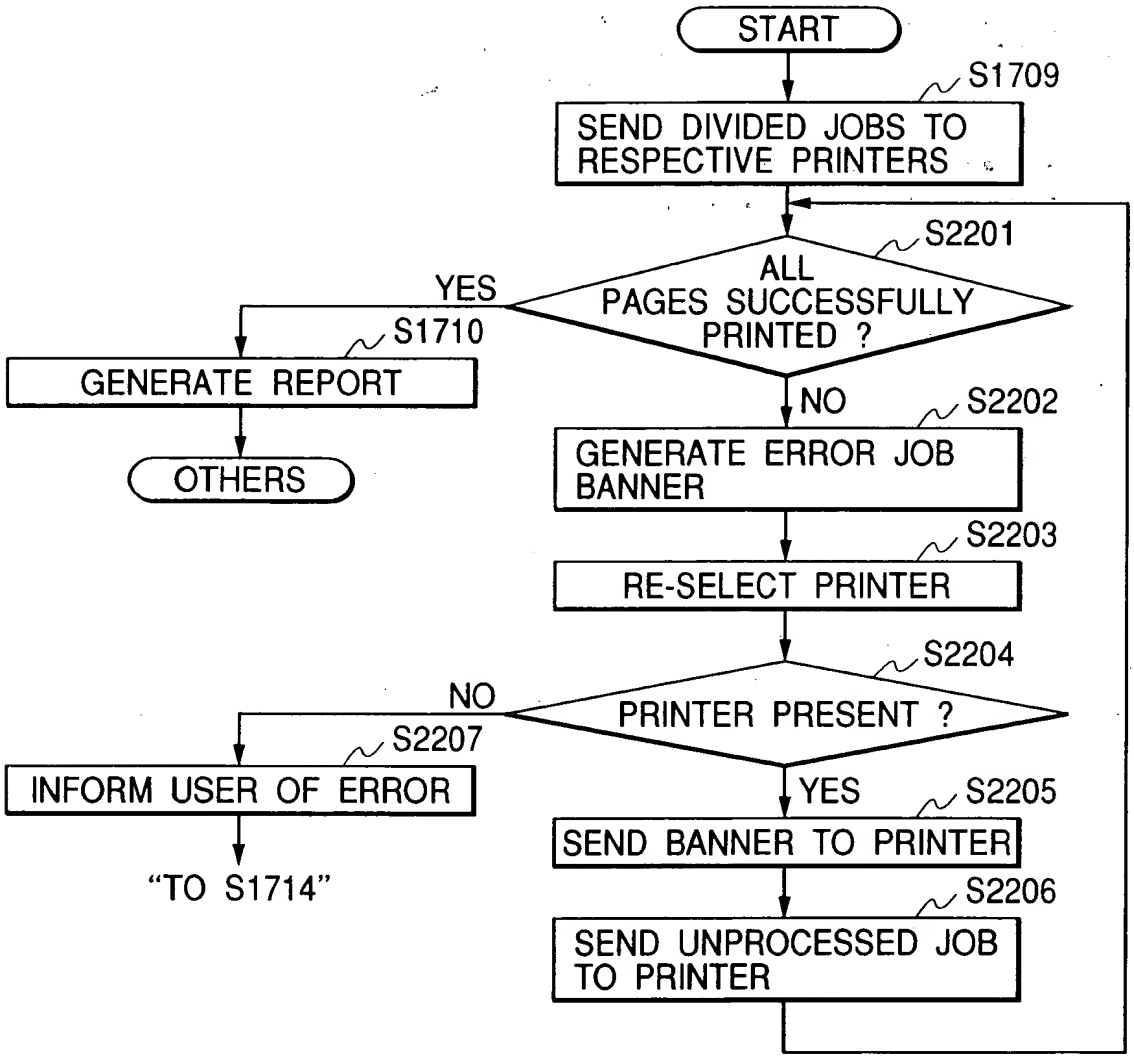

FIG. 23

STEP OF EXECUTING DISTRIBUTED PRINTING
STEP OF DETECTING PRINTER ERROR
STEP OF GENERATING ERROR REPORT
STEP OF OUTPUTTING UNPROCESSED PAGE(S) WITH ERROR REPORT

FIG. 24

MEMORY MAP OF MEM MEDIUM

DIRECTORY
1ST DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.10
2ND DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.12
3RD DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.14
4TH DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.15
5TH DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.17
6TH DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIGS.18A & 18B
7TH DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIGS.19A & 19B
8TH DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG.22